

SHORT COMMUNICATION

Hibbertia sejuncta*, a new, rare species from Western Australia, with notes on *H. helianthemoides

Hibbertia helianthemoides (Turcz.) F.Muell. was described (as *Candollea helianthemoides* Turcz.) in 1849, based on a specimen collected by James Drummond on his 4th collecting expedition, most likely in the Stirling Range (Drummond's 4th expedition traversed the Stirling Range (George 2009), and the type specimen closely matches specimens from there). Wheeler (2002), in a revision of a small species group that she regarded included *H. helianthemoides*, accepted it as endemic in the Stirling Range, with the exception of one specimen from near Tenterden, which is outside the Range but close to its western end. Wheeler subsequently determined a number of specimens at PERTH, particularly from the area between Perth and Eneabba, as a 'northern variant' of *H. helianthemoides*, although this variant was not provided with a formal phrase name.

A conservation assessment of *H. helianthemoides* s. str. (i.e. before the inclusion of the 'northern variant') led to it being listed as Priority Four under Department of Parks and Wildlife Conservation Codes for Western Australian Flora (Jones 2015). However, under the expanded circumscription including the 'northern variant', a conservation rating of 'Least Concern' would be warranted. Given uncertainty regarding the taxonomic status of the 'northern variant', a review of the species was initiated to help determine its range and conservation status.

After study of all available material of *H. helianthemoides* at the Western Australian Herbarium, it became clear that: (1) only specimens from the western end of the Stirling Range match the type; (2) all specimens of the 'northern variant' can be adequately referred to a number of other taxa including *H. sericosepala* K.R.Thiele, *H. huegelii* (Endl.) F.Muell., *H. leucocrossa* K.R.Thiele and *H. desmophylla* (Benth.) F.Muell.; (3) five specimens from two widely disjunct localities in the Avon Wheatbelt bioregion (Department of the Environment 2013), from near Tenterden and Lake Muir, comprise a new species described here as *H. sejuncta* K.R.Thiele & Nge.

Hibbertia sejuncta* K.R.Thiele & Nge, *sp. nov.

Type: [near Tenterden] Western Australia [precise locality withheld for conservation reasons], 22 August 2016, K.R. Thiele 5353 (*holo*: PERTH 08813477; *iso*: AD, CANB).

Hibbertia sp. Tenterden (M. Sowry 154), Western Australian Herbarium, in *FloraBase*, <https://florabase.dpaw.wa.gov.au/> [accessed 18 August 2016].

Low-growing *shrubs* to 25 cm high, with short, erect branches from prostrate or spreading main stems, resprouting from the rootstock after fire; branchlets moderately crisped-pubescent with white to pale grey, simple, spreading hairs. *Leaves* crowded, ± fasciculate, linear, (3.5–)8–10(–20) mm long, 0.6–0.8 mm wide; leaf lamina very narrow but distinctly recurved (abaxial surface grooved adjacent to the relatively broad midrib), non-tuberculate, sparsely pilose with spreading, crisped, white to pale grey, simple hairs to c. 1 mm long; apex obtuse. *Flowers* sessile, mostly single and terminating

axillary short-shoots; flower-subtending bracts 3–5, brown, scarious, to 1.5 mm long, the upper ones orbicular and glabrous, the lower ones narrower, acute, and with a sparse indumentum as for the leaves. *Sepals* 5, ovate, 3.5–5.2 mm long, glabrous, thin-textured except for a slightly thicker but not prominent midrib; outer sepals shorter and more acute than the inner, which are obtuse-apiculate. *Petals* 5, yellow, broadly obovate, 4.0–5.5 mm long, \pm entire to deeply emarginate. *Stamens* 11, all around the gynoecium, in 3 bundles of 3 stamens each fused by their filaments, and with two single stamens; filaments 1.0–1.2 mm long, those of the stamen bundles fused for most of their length except the inner stamen which has a slightly longer free portion; anthers rectangular, 1.2–1.5 mm long, dehiscing by introrse, longitudinal slits. *Staminodes* absent. *Carpels* 3; ovaries compressed-globular, glabrous; styles excentrically erect-incurved from the carpel apex, 1.2–1.8 mm long. *Ovules* 1(2) per carpel. *Seeds* \pm globular, glossy, brown, c. 2 mm diam.; aril pale, deeply divided into finger-like lobes, covering < half the seed.

Diagnostic features. *Hibbertia sejuncta* may be distinguished from all other Western Australian taxa by its combination of stamens arranged all around the three glabrous carpels, with two free stamens and three bundles of three stamens each, and linear, pilose leaves with the lamina very narrow but distinctly recurved either side of a prominent midrib.

Specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 20 July 1993, A.R. Annel's 3432 (PERTH); 24 Oct. 2003, E.M. Sandiford 917 (PERTH); 4 Nov. 2003, E.M. Sandiford 921 (PERTH); 14 Nov. 2003, E.M. Sandiford 939 (PERTH); 8 Sep. 2009, M. Sowry 154 (PERTH).

Phenology. Peak flowering is in late winter and early spring, with sporadic flowering at other times of year when conditions are suitable.

Distribution and habitat. *Hibbertia sejuncta* occurs at two widely disjunct locations, near Tenterden and near Lake Muir. At both sites it occurs in winter-damp areas on gentle slopes adjacent to minor drainage lines and run-on areas, in grey sand beneath low, open jarrah forest.

Conservation status. *Hibbertia sejuncta* is listed by Jones (2015) as Priority Two under Department of Parks and Wildlife Conservation Codes for Western Australian Flora, under the name *H. sp.* Tenterden (M. Sowry 154).

Etymology. The epithet is from the Latin *sejunctus* (disjointed, separated) and refers to the highly disjunct distribution of the new species. While further collections may uncover new populations, the area in which it occurs is well-collected for *Hibbertia*, and the taxon is likely to remain disjunct and scattered.

Notes. *Hibbertia sejuncta* belongs in *Hibbertia* Andrews subgen. *Hibbertia*, and may be phylogenetically close to *H. helianthemoides*. Although neither species was included in the only available phylogenetic analysis of the genus (Horn 2005), they are morphologically closely related to species in a well-supported clade comprising *H. depressa* Steud., *H. fitzgeraldensis* J.R. Wheeler, *H. hibbertioides* (Steud.) J.R. Wheeler, *H. notibractea* J.R. Wheeler, *H. rupicola* (S. Moore) C.A. Gardner and *H. sericosepala* (as *H. sp.* Gngangara). These taxa share an actinomorphic androecium with stamens in five bundles united by their filaments (in some species with two stamens single) surrounding three (rarely five) glabrous, uniovulate carpels.

Hibbertia sejuncta has the narrowest leaves of any species in subgen. *Hibbertia*, with the recurved lamina scarcely wider than the prominent midrib. In this respect it is similar to many species of subgen. *Hemistemma* Juss. ex Thouars that have short, ‘ericoid’ leaves with a strongly revolute lamina appressed to the midrib abaxially. Horn (2005) noted that all species in subgen. *Hemistemma* have leaves with a single vascular trace at base, while leaves in subgen. *Hibbertia* are 3-traced. *Hibbertia sejuncta* leaves are 1-traced like those of subgen. *Hemistemma*, indicating that this character may be partially a reflection of leaf width rather than being phylogenetically informative.

A specimen from near Wickepin initially assigned to *H.* sp. Tenterden (*H.B. Shugg s.n.* PERTH 04388348), is superficially similar to *H. sejuncta* but lacks its distinctive leaves, instead having narrow but flat leaves without a revolute lamina; it also has a more appressed leaf indumentum. It has been tentatively assigned as a significant range extension of *H. priceana* J.R.Wheeler, to which it is most similar.

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